IMAGE FOCUS

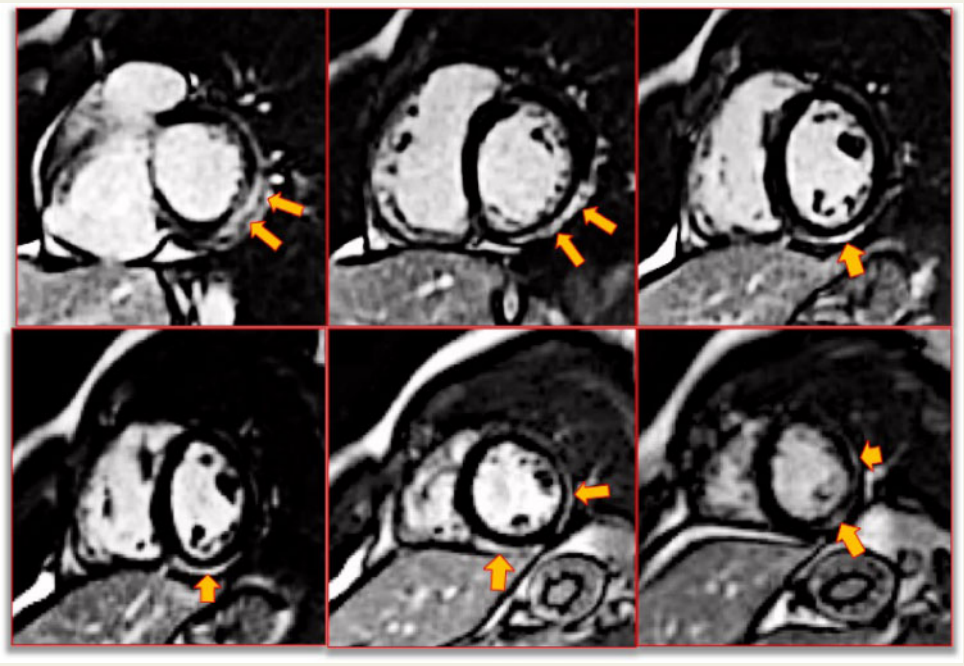
doi:10.1093/ehjci/jeaa107

Myocarditis revealing COVID-19 infection in a young patient

Jean-François Paul*, Pierre Charles, Clémence Richaud, Christophe Caussin, and Christelle Diakov

Institut Mutualiste Montsouris, Paris, France

* Corresponding author. Institut Mutualiste Montsouris, 42 bd Jourdan, 75014 Paris, France. Tel: +33 1 56616057, Email: jean-francois.paul@imm.fr



A 35-year-old male patient was admitted to the cardiology department of the Institut Mutualiste Montsouris, Paris, for chest pain and fatigue with repolarization changes in the precordial ECG leads. He had no fever or respiratory signs, and his only cardiovascular risk factor was overweight (BMI = 29 kg/m^2). Echocardiography showed normal systolic function with no pericardial effusion. The high-sensitivity cardiac troponin I levels were high (peak = 2885 ng/L).

Cardiac magnetic resonance imaging (MRI) showed late subepicardial enhancement predominating in the inferior and lateral walls, typical of acute myocarditis (arrows).

Due to the current epidemic of coronavirus, a COVID-19 PCR test was performed. The result was positive.

Chest CT scan was normal, with no evidence of pulmonary COVID-19 disease.

All other serological tests were negative, including those for hepatitis B and C viruses, HIV, CMV, EBV, Coxsackie, HSV1, HSV2, VZV, parvovirus B19, and Lyme disease. All immunological tests for autoimmune diseases were also negative.

The patient was treated with 5 mg of ramipril and 5 mg of bisoprolol. Three weeks later, his symptoms had abated and his troponin levels had returned to normal.

COVID-19 is now a known cause of severe cardiac manifestations such as myocarditis fulminans. This case suggests that COVID-19 infection may be revealed by acute myocarditis without fever, cough, or pulmonary involvement.